Evan Matthews

(309) 256-9709 | evanmm3@illinois.edu | ematth.dev | linkedin.com/in/ematth/

Education

University of Illinois Urbana Champaign

Master of Science in Computer Science — 3.62/4.00 GPA — August 2023 – May 2025

Bachelor of Science in Computer Science + Music — 3.76/4.00 GPA — August 2019 – May 2023

Skills

Programming: Python, C/C++, Java, SQL, JavaScript, HTML, CSS, OCaml, Mojo, SuperCollider, Rust, R

Data Management: MySQL, SQLite, AWS, GCP, MongoDB

Data Science: Pandas, NumPy, SciPy, Scikit-Learn, Data Engineering, Data Visualization

AI/ML: PyTorch, TensorFlow, Computer Vision, Diffusion, Transformers, CNN/RNN, HuggingFace

Project Management: Git/Github, Docker, Visual Studio Code, Vim/NeoVim, JetBrains(PyCharm, CLion, IntelliJ), XCode, Cursor, Agile, Slack, Microsoft Teams, Notion

Other: Git/Github, Windows, MacOS, Ubuntu/Linux, Microsoft Office(Word, Excel, PowerPoint), Google Suite(Docs, Sheets, Slides), TeX/LaTeX, Modular, Object-Oriented Programming, Functional Programming

Projects and Research

Conversational AI Agent with Desktop Context — July 2025 – Present
- Integrated desktop captioning, voice recognition, and text-to-speech models to create a realtime context-aware AI voice assistant
- Researched emerging technologies, market trends to architect an in-demand extensible web service with APIs and Docker

Cross-Modal Audio-Image Similarity Analysis — March 2025 – Present
- Architected a multi-modal neural network pipeline to correlate image and audio data for similarity analysis
- Constructed a robust dataset of 1,000+ image-audio pairs with PyTorch to train and evaluate model performance

3D Acoustic Room Rendering Environment — February 2025 – Present
- Developed a simulation application in Python with real-time data visualization for room acoustics
- Collaborated with industry experts to architect a user-friendly interface for interior designers and architects
- Led software development lifecycle, decision-making and conceptualization using Agile methodologies and weekly sprints

Thesis: Text Recaptioning for Audio Diffusion Models — June 2024 – May 2025
- Correlated text structure with audio features to identify high variability in generative audio models without model retraining
- Applied deep learning and statistical techniques for cross-modal understanding between audio and natural language
- Processed 4,000+ text prompts and audio files with 40+ hours of GPU-optimized experiments

AI-Generated Image Lighting Inconsistency Detection — March – May 2024
- Designed physics-based deep learning experiments to detect lighting anomalies in AI-generated images
- Utilized PyTorch and OpenCV for custom dataset creation, model training, and evaluation
- Analyzed 1,000+ images with 20+ hours of GPU-accelerated experiments to validate model performance

A Case for Bayesian Grading — March – May 2024
- Pioneered a Bayesian-based inference method for predicting cheating with high likelihood
- Imeplemented statistical studies to validate method accuracy on historical classroom data
- Accepted publication at SIGCSE 2024 Virtual Conference on statistical methods in education

Experience

Teaching Assistant, Siebel School of Computing and Data Science — January 2022 – May 2025
- Developed automated grading system using Python for large-scale Audio Computing course
- Instructed graduate-level Machine Learning (ML) course covering deep learning and signal processing
- Assisted 800+ students using question-based tutoring to clarify complex technical concepts and improve self-learning skills

Chair, ACM SIGMusic — August 2023 – December 2024
- Led community engagement in signal processing and audio analysis topics (20 hours/week)
- Developed audio production software with data-driven features while securing $1000+ in project funding
- Grew group membership by 150% through community outreach and event planning

Treasurer, ACM at UIUC — May 2022 – May 2023
- Modernized financial system as a digital platform to manage $250,000+ in assets and grow budget by 40%
- Orchestrated year-long club room renovation to enhance member experience and promote collaboration
- Promoted an inclusive environment through personal outreach and member engagement initiatives

Product Manufacturer, Haken Audio — November 2021 – August 2022
- Built and hand-tested 70+ keyboards and synthesizers for award-winning music hardware company
- Collaborated with team members in studying complex electronics and circuit concepts
- Implemented data-driven process improvements, increasing production efficiency by 25%